

# PS-LX205

## SERVICE MANUAL

This model is the system section of the SEN-205.

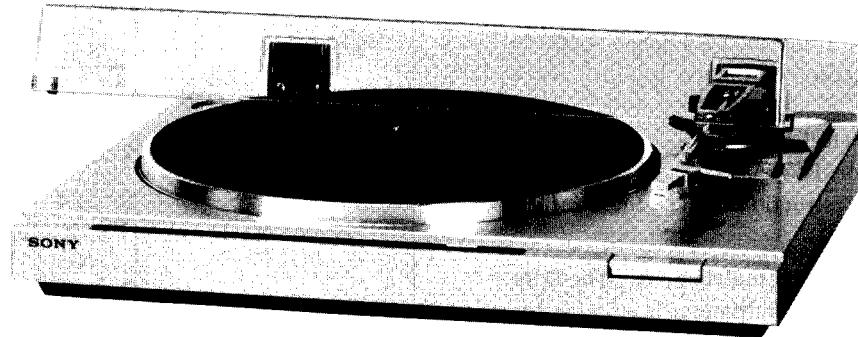
*US Model*

*Canadian Model*

*AEP Model*

*UK Model*

*E Model*



### SPECIFICATIONS

#### Turntable

Platter	30 cm (12 in.), aluminium-alloy diecast
Motor	DC servo motor
Drive system	Belt-drive
Speed	33⅓ rpm, 45 rpm
Wow and flutter	0.045% * (WRMS) ±0.06% (DIN)
Signal-to-noise ratio	70 dB (DIN-B)
Automatic system	Return, reject

#### Tonearm

Type	Dynamic balanced
Pivot-to-stylus length	216.5 mm (8½ in.)
Overhang	16.5 mm (2¹/₃₂ in.)
Tracking error	+3°, -1°

#### Cartridge VL-42G

type	Moving magnet type
Frequency response	20 Hz to 20 kHz
Channel separation	16 dB at 1 kHz
Load impedance	50 – 100 kilohms
Tracking force	2.0 g
Stylus	Sony ND-142G (0.6 mil diamond)

#### General

Dimensions	Approx. 430 x 110 x 360 mm (w/h/d) (17 x 4⅔ x 14 inches)
Weight	incl. projecting parts and controls Approx. 3.5 kg (7 lb 12 oz) net

#### ATTENTION AU COMPOSANT AYANT RAPPORT A LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET  
UNE MARQUE  SUR LES DIAGRAMMES SCHÉ-  
MATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES  
POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REM-  
PLACER CES COMPOSANTS QUE PAR DES PIÈCES  
SONY DONT LES NUMÉROS SONT DONNÉS DANS CE  
MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR  
SONY.

#### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE  
PARTS LIST ARE CRITICAL TO SAFE OPERATION.  
REPLACE THESE COMPONENTS WITH SONY PARTS  
WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS  
MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

**STEREO TURNTABLE SYSTEM**  
**SONY®**



**AUD**

## SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A.)

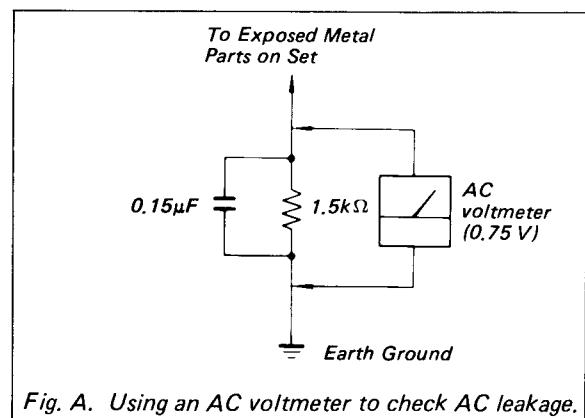
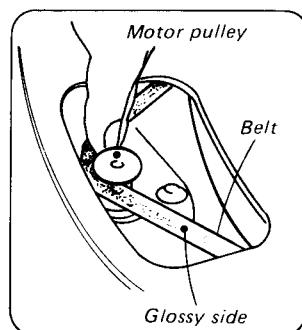


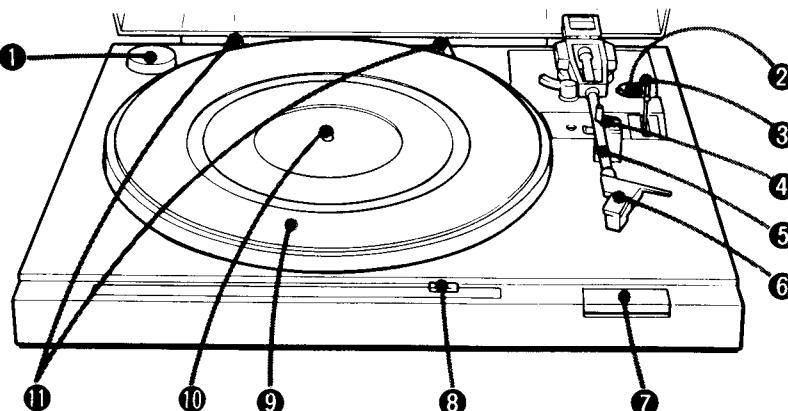
Fig. A. Using an AC voltmeter to check AC leakage.

### CAUTION ON INSTALLING BELT

When installing belt, glossy should be faced outside.



### FUNCTION OF CONTROLS



① 45-rpm adaptor

② ANTI-SKATING compensator: See page 11.

③ ▼ (cueing lever): Use to lift and lower the tonearm.

④ Arm rest

⑤ Tonearm

⑥ Cartridge

⑦ REJECT button: To stop during play, press this button.

⑧ SPEED selector: For 45-rpm record, depress the selector. For 33 1/3-rpm record, press it again.

⑨ Rubber mat

⑩ Center spindle

⑪ Disc centering guides

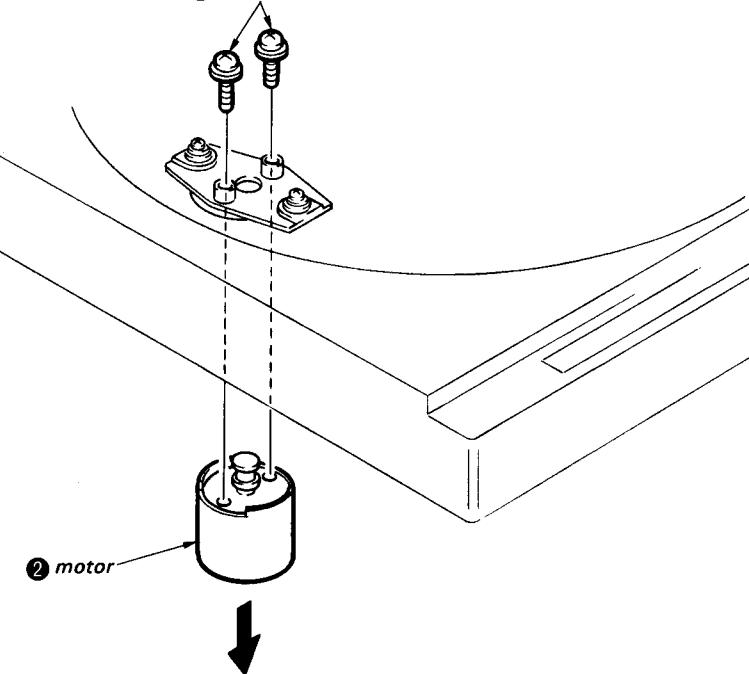
## SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

### REMOVE BOTTOM PLATE

#### MOTOR REMOVAL

① screw, motor



#### ARM SECTION REMOVAL

① PTPWH 3x10

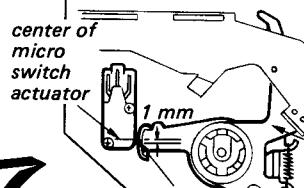
When installing, distance between center of micro switch actuator and portion \* of switch lever is 1 mm.

② plate (upper), shield

③ PTPWH 3x10

W 3φ

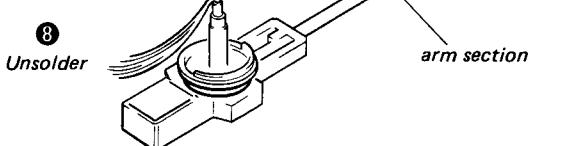
④ plate (lower), shield



lever switch

⑧

Unsolder



## LEAD WIRE INSTALLATION

- 1 Pass piano wire with lead wires through pipe as shown in Fig. A.
- 2 Pass piano wire with lead wires through center joint assy as shown in Fig. B.

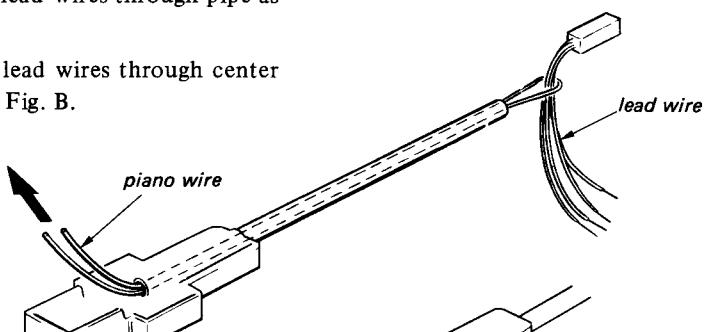


Fig. A.

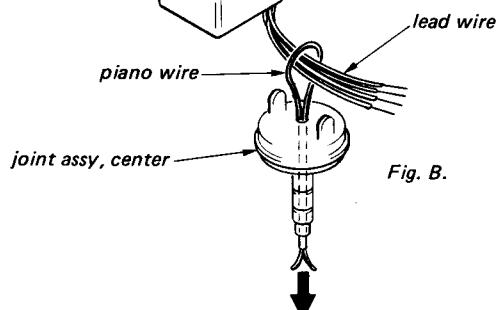
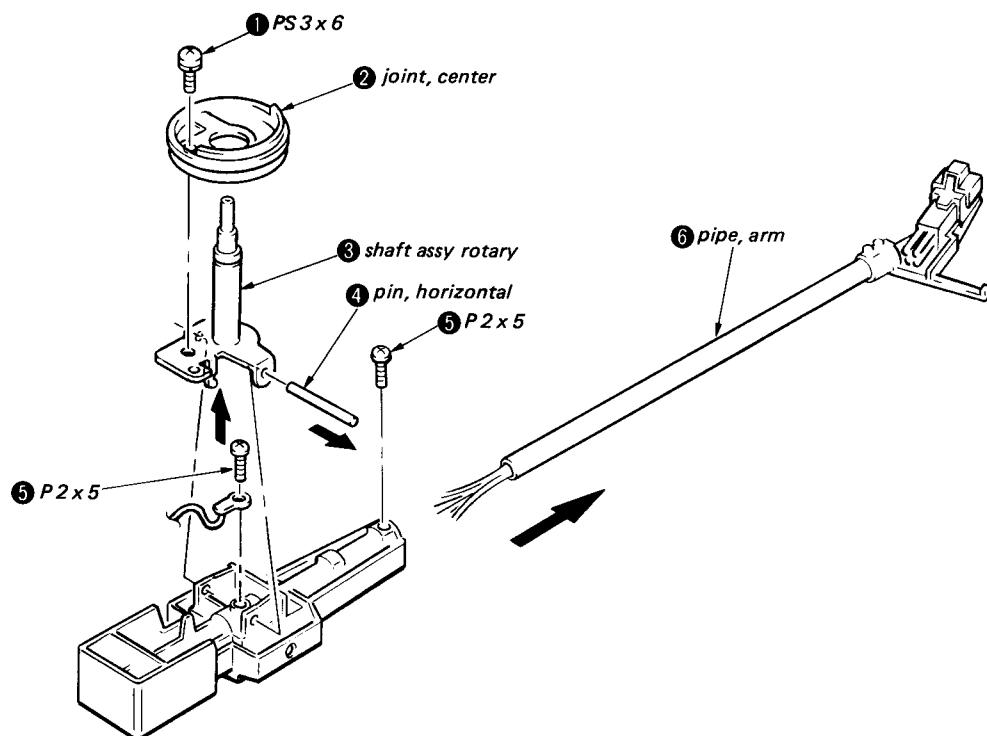


Fig. B.

## ARM PIPE REMOVAL



## SECTION 3

### ADJUSTMENTS

**Speed Adjustment (Using a stroboscope board)**

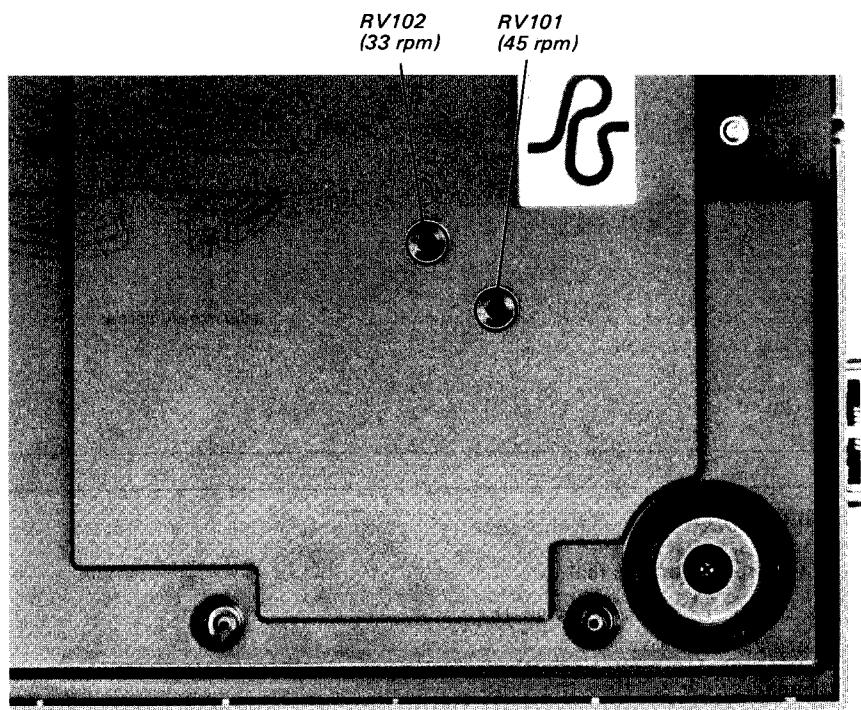
**Note:** Be sure to perform 45 rpm adjustment before 33 rpm.

1. Put a stroboscope board on the mat.
2. Set the SPEED switch to 45.  
Depress the lifter knob to make a lift-up mode and move the arm on most outer-groove of a record.  
Adjust RV102 so that the stripped pattern of stroboscope board is stationary.
3. Set the SPEED switch to 33.  
Adjust RV101 in the same way.

**(Using a test record)**

**Note:** Be sure to perform 45 rpm adjustment before 33 rpm.

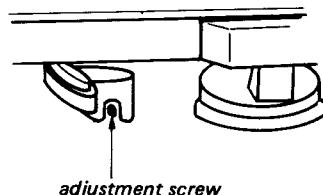
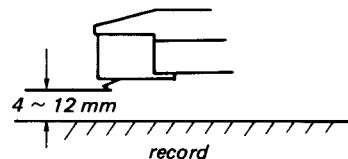
1. Put a test record (YFSC-16) on the mat.
2. Move the arm on a-2 (3 kHz) section and trace it.
3. Adjust RV102 so that the frequency is 4038 – 4062 Hz.
4. Set the SPEED switch to 33.  
Adjust RV101 so that the frequency is 2991 – 3009 Hz.



## Stylus Height Adjustment

1. Put a test record (YFSC-16) or a record on the mat.
2. Depress the lifter knob to make a lifter-up mode and move the arm on most outer-groove of a record. Confirm that the stylus height from a record is within specification. If not, turn the adjustment screw.
3. Move the arm on most inner-groove of a record and confirm that the stylus height from a record is within specification. If not, turn the adjustment screw and repeat steps 2 and 3.

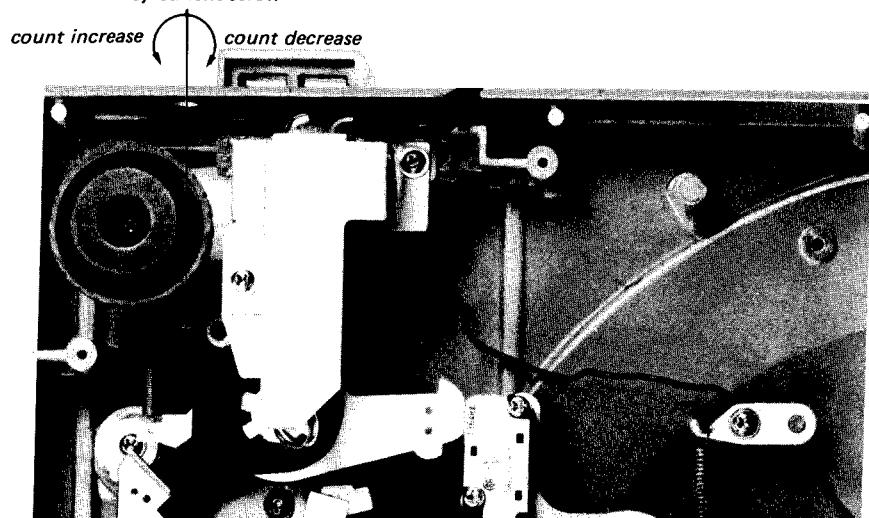
Specification: 4 ~ 12 mm



## Automatic Return Position Adjustment

1. Put a test record (YFSC-16) on the mat.
2. Set the SPEED switch to 33 and move the tonearm on a return check groove.
3. Turn the adjustment screw so that the tonearm starts to return at count of 4 – 10.

*adjustment screw*

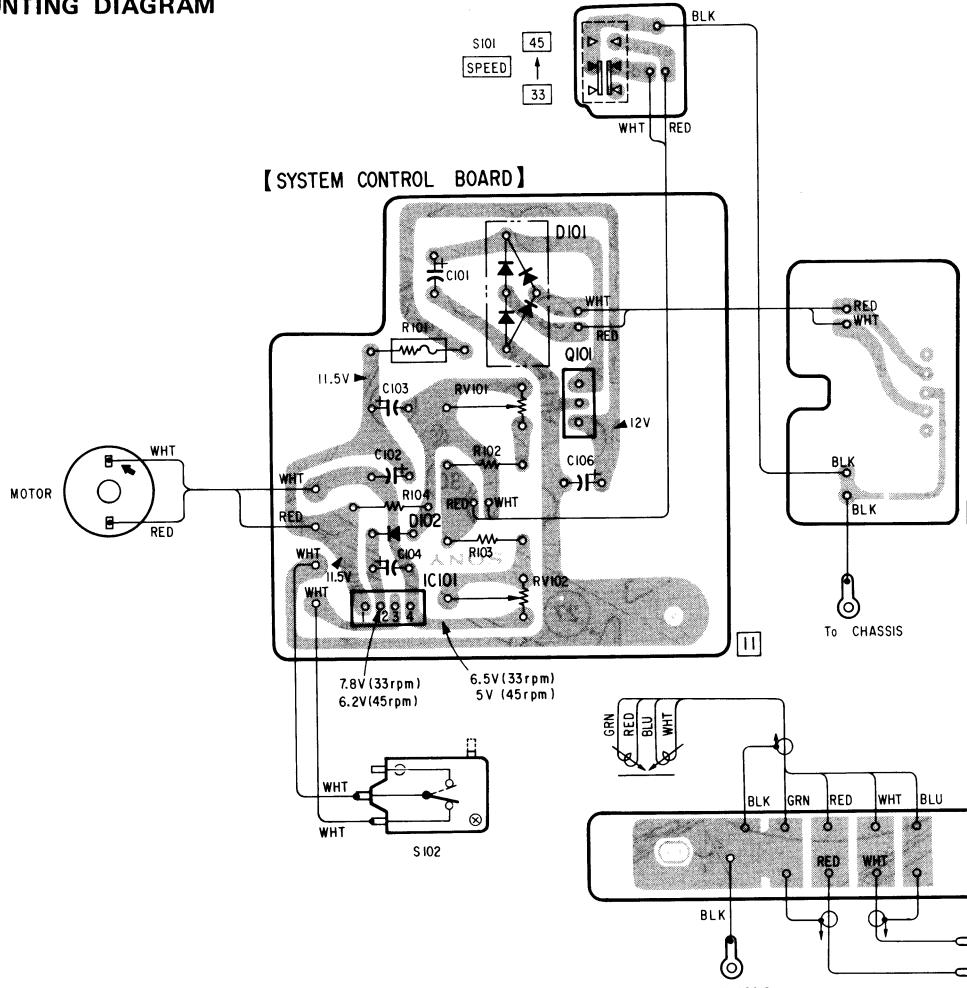


## SECTION 4 DIAGRAMS

1 2 3 4 5 6 7 8

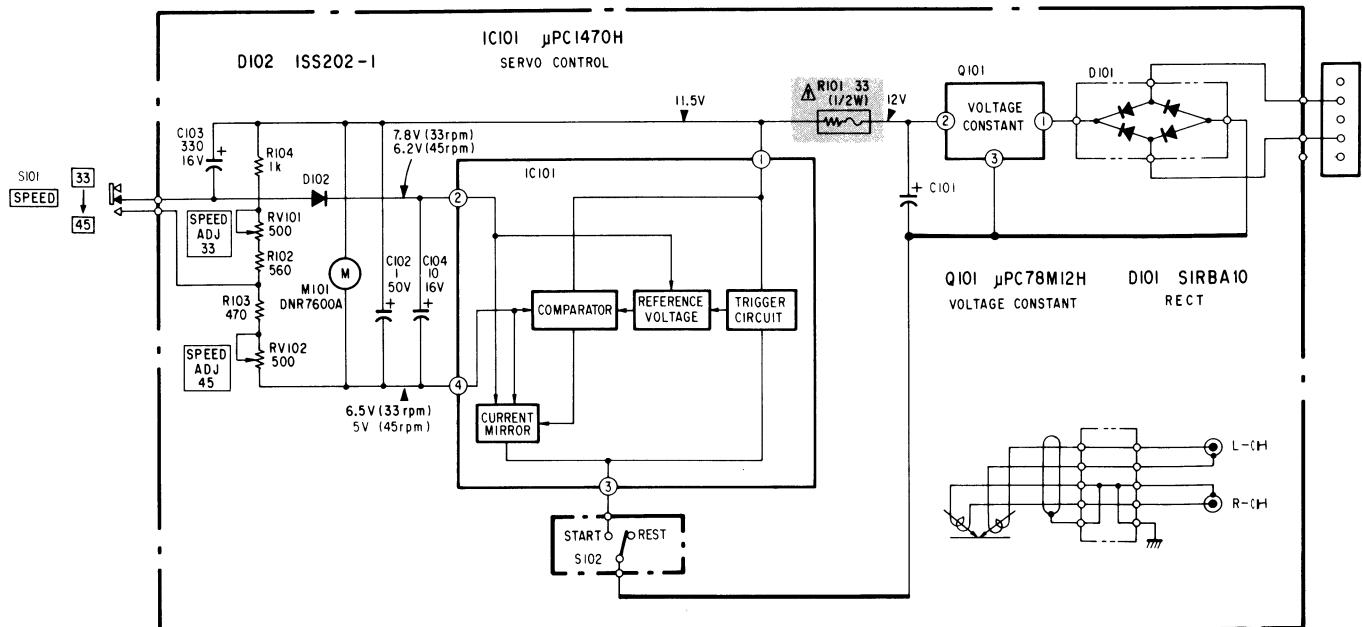
## 4-1. MOUNTING DIAGRAM

A



## 4-2. SCHEMATIC DIAGRAM

F



## Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\mu\text{F}$
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
- ~~R~~: fusible resistor.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 k $\Omega$ /V).

- Voltage variations may be noted due to normal production tolerances.
- Switches:

Ref. No.	Switch	Position
S101	SPEED	33
S102	START/REST	REST

## [SYSTEM CONTROL BOARD]

Note: The components identified by shading and mark  $\triangle$  are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque  $\triangle$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## SECTION 5

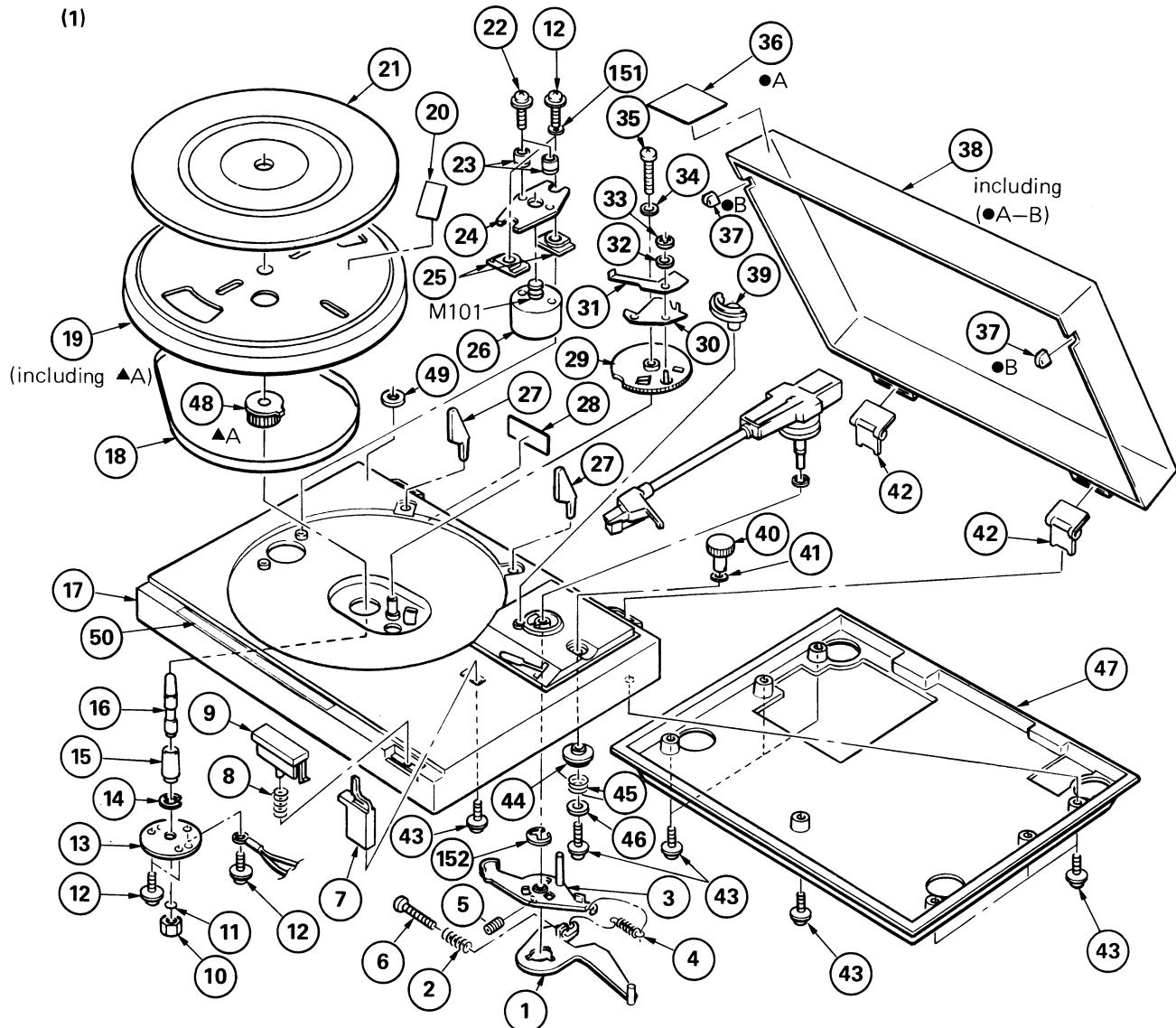
### EXPLODED VIEWS AND PARTS LIST

## NOTE :

The mechanical parts with no reference number in the exploded views are not supplied.

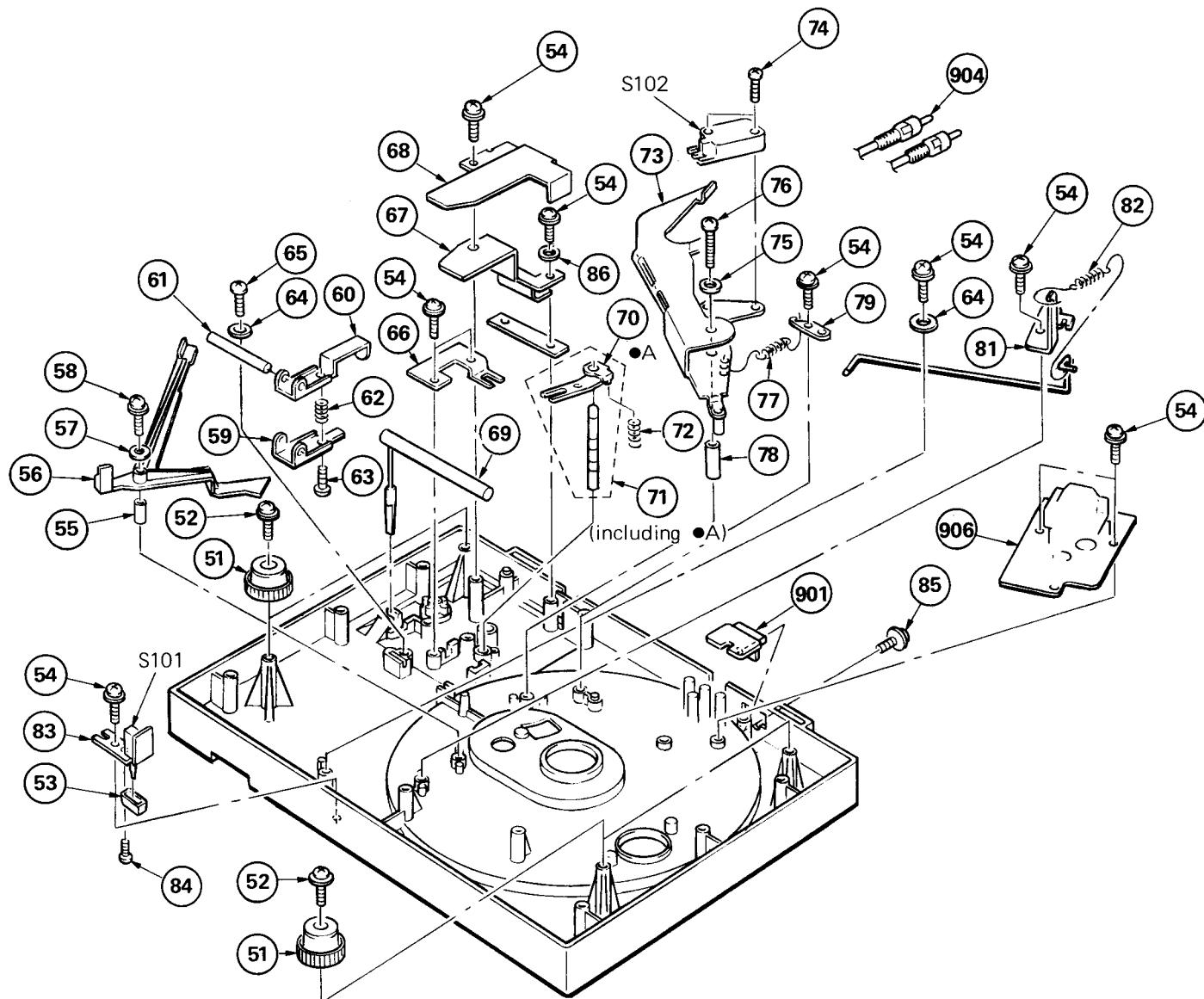
Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The construction parts of an assembled part are indicated with a collation number on the remark column.



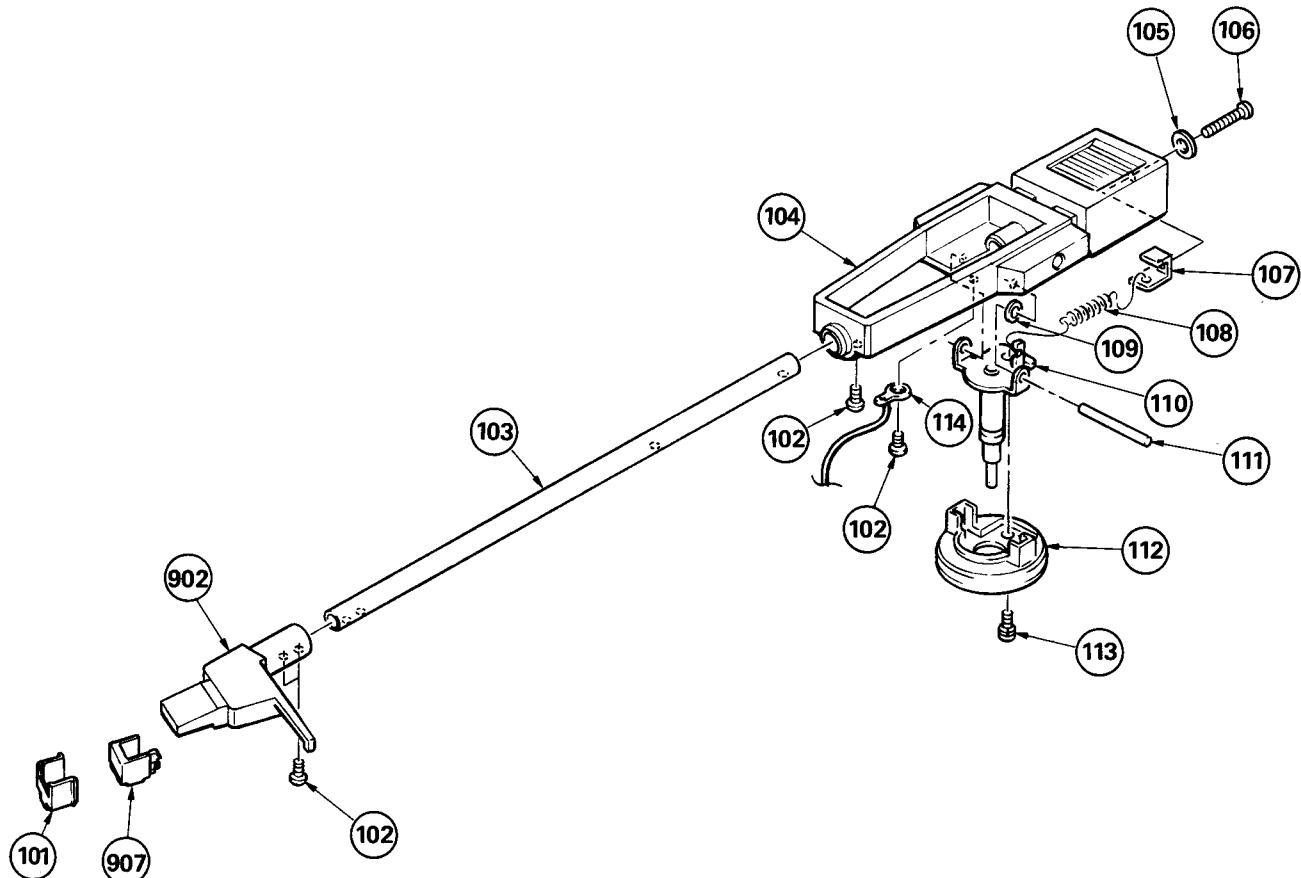
No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
1	4-875-214-00	LEVER, SWITCH		25	4-908-120-01	RUBBER, FLOATING	
2	4-836-836-00	SPRING, COMPRESSION		26	4-908-116-01	COVER, VIBRATION PROOF	
3	*4-858-234-00	LEVER, RETURN		28	*4-889-514-01	LABEL, MODEL NUMBER	
4	3-536-780-00	SPRING, TENSION		29	4-903-339-01	GEAR, DRIVE	
5	3-701-508-00	SET SCREW, DOUBLE POINT 3X6		30	X-4852-007-2	CLUTCH (B) ASSY	
6	7-682-553-09	SCREW +B 3X20		31	4-852-013-05	CLUTCH (A)	
7	4-875-208-00 (SILVER)....REST, ARM			32	7-688-003-11	W 3, MIDDLE	
	4-875-208-31 (BLACK)....REST, ARM			33	7-624-190-81	STOP RING 2, TYPE-CS	
8	3-533-014-00	SPRING, COMPRESSION		34	4-812-554-00	WASHER	
9	4-881-608-00 (SILVER)....KNOB, REJECT			35	7-685-152-14	SCREW +P 3X25 TYPE2 SLIT	
	4-881-608-11 (BLACK)....KNOB, REJECT			36	*3-703-705-01	STICKER, SONY SYMBOL (30)	
10	4-908-104-01	NUT, BEARING		37	4-876-304-00	CUSHION, DUST COVER	
11	4-908-141-01	RETAINER (S), THRUST		38	X-4877-804-0	COVER ASSY, DUST	
12	3-703-137-00	SCREW, TAPPING		39	X-4903-302-1	PLATE ASSY, UP AND DOWN	
13	4-908-101-01	HOLDER, BEARING		40	4-881-633-00	KNOB (1), IFC	
14	7-624-133-34	STOP RING 8, TYPE-CE		41	4-844-041-00	WASHER, (N)	
15	4-908-102-01	BEARING		42	4-857-653-00	HINGE, DUST COVER	
16	4-889-523-01	SHAFT, CENTER		43	3-703-136-00	SCREW, TAPPING	
17	4-889-531-21 (SILVER)....FRAME			44	4-903-323-01	CAM, IFC	
	4-889-531-31 (BLACK)....FRAME			45	4-874-250-00	SPRING	
18	4-827-489-XX	BELT		46	0-056-028-00	WASHER, PLAIN, 14 DIA.	
19	X-4881-615-1	TURNTABLE ASSY		47	4-889-532-11	PLATE, BOTTOM	
20	4-858-264-21	LABEL, CAUTION		48	4-868-052-00	GEAR, CENTER	
21	4-887-941-11	SHEET, TURNTABLE		50	4-889-525-11	PANEL, CONTROL	
22	4-909-062-01	SCREW MOTOR		151	*4-301-647-00	WASHER, SPECIAL	
23	4-909-061-01	CUSHION, MOTOR		152	7-624-133-54	STOP RING 10, TYPE-CE	
24	*4-908-106-01	BRACKET (B), MOTOR					

(2)



No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
51	X-4903-301-1	INSULATOR ASSY		70	*4-876-317-00	GUIDE, LIFTER	
52	7-685-650-21	SCREW +BVT P 3X16 TYPE2 SLIT		71	A-4637-063-A	ROD ASSY (P), PUSH	
53	4-870-730-21	KNOB, SPEED		72	4-903-331-01	SPRING (LIFTER), COMPRESSION	
54	3-703-137-00	SCREW, TAPPING		73	*X-4877-805-6	LEVER ASSY, MAIN	
55	4-861-933-00	SLEEVE (D)		74	7-682-150-01	SCREW +P 3X12	
56	*4-858-240-00	LEVER (M), CLUTCH		75	3-610-931-11	SPACER, SHAFT, DRUM, HEAD	
57	4-812-554-00	WASHER		76	7-685-666-21	SCREW +BVT P 4X30 TYPE2 SLIT	
58	7-685-152-14	SCREW +P 3X25 TYPE2 SLIT		77	4-870-785-00	SPRING, TENSION (MAIN LEVER)	
59	*4-903-321-01	LEVER (G), LIFTER		78	4-875-207-00	SLEEVE	
60	*4-903-317-01	LEVER (F), LIFTER		79	*4-870-752-00	HOLDER, SPRING	
61	*4-881-611-00	SHAFT, LEVER, LIFTER		80	4-875-204-00	SPRING	
62	4-881-642-00	SPRING, COMPRESSION		81	*4-875-205-00	PLATE, FIXED	
63	7-621-775-50	SCREW +B 2.6X10		82	3-491-240-00	SPRING, TENSION	
64	*4-301-647-00	WASHER, SPECIAL		83	*4-889-527-01	BRACKET, SWITCH	
65	3-703-136-00	SCREW, TAPPING		84	7-621-775-08	SCREW +P 2.6X3	
66	*4-903-320-01	RETAINER (D), LIFTER		85	7-685-647-79	SCREW +BVT P 3X10 TYPE2 N-S	
67	*4-889-524-01	PLATE (LOWER), SHIELD		901	1-562-067-00	SOCKET, CONNECTOR 5P	
68	*4-889-526-01	PLATE (UPPER), SHIELD		904	1-551-294-00	CORD	
69	4-877-824-00	CAM, LIFTER		906	*1-614-796-11	PC BOARD, SYSTEM CONTROL	
				86	7-623-422-07	WASHER 3φ	

(3)



No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
101	3-706-613-00	PROTECTOR		109	3-701-437-01	WASHER	
102	7-685-103-24 7-685-103-29	(SILVER)...SCREW +P 2X5 (BLACK)...SCREW +P 2X5	TYPE2 SLIT TYPE2 SLIT	110	X-4881-605-1	SHAFT ASSY, ROTARY	
103	4-889-528-01 4-889-528-11	(SILVER)...PIPE, ARM (BLACK)...PIPE, ARM		111	4-880-619-00	PIN, HORIZONTAL	
104	4-889-529-01 4-889-529-11	(SILVER)...JOINT, PIPE (BLACK)...JOINT, PIPE		112	4-880-631-00 4-880-631-11	(SILVER)...JOINT, CENTER (BLACK)...JOINT, CENTER	
105	7-688-003-11	W 3, MIDDLE		113	7-682-647-01	(SILVER)...SCREW +PS 3X6	
106	7-682-555-04 7-682-555-09	(SILVER)...SCREW +B 3X30 (BLACK)...SCREW +B 3X30		114	7-623-505-01	LUG, 2	
107	4-868-016-00	HOOK, SPRING		902	1-549-109-00 1-549-109-21	(SILVER)...CARTRIDGE(WITH SHELL)(VL-42G) (BLACK)...CARTRIDGE(WITH SHELL)(VL-42G)	
108	4-889-510-00	SPRING, TENSION		907	1-549-112-00	STYLUS (ND-142G)	

## SECTION 6

### ELECTRICAL PARTS LIST

**NOTE:**

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

**CAPACITORS:**  
MF: $\mu$ F, PF: $\mu\mu$ F.**RESISTORS**

- All resistors are in ohms.
- F : nonflammable

**COILS**

- MMH : mH, UH :  $\mu$ H

**SEMICONDUCTORS**

In each case, U :  $\mu$ , for example:  
 UA... :  $\mu$ A..., UPA... :  $\mu$ PA..., UPC... :  $\mu$ PC,  
 UPD... :  $\mu$ PD...

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

No.	Part No.	Description				
901	1-562-067-00	SOCKET, CONNECTOR 5P				
902	1-549-109-00	(SILVER)....CARTRIDGE(WITH SHELL)(VL-42G)				
	1-549-109-21	(BLACK)....CARTRIDGE(WITH SHELL)(VL-42G)				
903	1-557-042-11	(RED)....LEAD (WITH TERMINAL)				
	1-557-042-21	(GREEN)....LEAD (WITH TERMINAL)				
	1-557-042-31	(BLUE)....LEAD (WITH TERMINAL)				
	1-557-042-41	(WHITE)....LEAD (WITH TERMINAL)				
904	1-551-294-00	CORD				
905	*1-535-117-00	TERMINAL				
906	*1-614-796-11	PC BOARD, SYSTEM CONTROL				
907	1-549-112-00	STYLUS (ND-142G)				
C101	1-123-348-00	ELECT	470MF	20%	35V	
C102	1-123-380-00	ELECT	1MF	20%	50V	
C103	1-123-309-00	ELECT	330MF	20%	10V	
C104	1-123-356-00	ELECT	10MF	20%	16V	
C106	1-123-333-00	ELECT	100MF	20%	25V	
D101	8-719-510-01	DIODE S1RBA10				
D102	8-719-107-94	DIODE 1SS202-1				
IC101	8-759-103-35	IC UPC1470H				
M101	8-835-126-01	MOTOR, DC (DNR-7600A)				
Q101	8-759-170-12	IC UPC78M12H				
R101 	1-212-970-51	FUSIBLE	33	5%	1/2W	F
R102	1-214-723-00	METAL	560	1%	1/4W	
R103	1-214-721-00	METAL	470	1%	1/4W	
R104	1-214-729-00	METAL	1K	1%	1/4W	
RV101	1-226-232-00	RES, ADJ, CARBON 500				
RV102	1-226-232-00	RES, ADJ, CARBON 500				
S101	1-570-166-11	SWITCH, PUSH (1 KEY)				
S102	1-570-149-11	SWITCH, MICRO				

**9-951-699-11**

**Sony Corporation**

**—12—**

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